UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 February 2008</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-18</u> is/are pending in the application.

  4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-18</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

  a)☐ All   b)☐ Some * c)☐ None of:

    1.☐ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments received on February 26, 2008 have been fully considered but they are not persuasive because the previously provided references disclose the claimed invention. Therefore, the finality of this Office Action is deemed proper.

The arguments on page 7 to 12 of the REMARKS are not persuasive, and thus the claims are not patentable.

Regarding claim 1, basically the Applicants' argument is that Dolganow fails to disclose fixed thresholds and are independent of the amount of available bandwidth in a link. In response, the Examiner provides McLean et al. (US 2005/0073955 A1), introduced in the previous Office Action. McLean clearly discloses fixed base bandwidth values or parameter values or STSs (e.g., paragraph [0018], line 12-[0020]; [0028]-[0029]).

Regarding claims 2-7, the Applicants' argument is focused on non-obviousness to combine the references of Dolganow and McLean because of the fact that Dolganow doesn't disclose fixed bandwidth thresholds. Dolganow discloses advertising or reporting the available amount of bandwidth in a link based on crossing the significant or threshold values (col. 1, lines 36-52), but the thresholds may not be fixed. However, as applied above, McLean teaches fixed bandwidth threshold or parameter values. The Applicants seem to agree with the Examiner that MacLean teaches "allocated bandwidth to circuits…in discrete bandwidth amounts". The Applicants' argument is focused on when to issue the available bandwidth messages. Dolganow discloses advertising or reporting the amount of available bandwidth for a link (col. 1, lines 36-42; col. 2, lines 45-53). Dolganow clearly discloses what has been claimed, "advertising the

amount of available bandwidth for a link when crossing any one of the plurality of bandwidth

thresholds". The Examiner can not bring the specification into the claims. As applied above,

McLean teaches plurality of fixed parameter values or base bandwidth thresholds (or STS-1s),

and adding or removing the bandwidths (such as incrementing or decrementing STS-1s) when

the bandwidth change crosses the thresholds (paragraph [0023]). Therefore, the combination of

the two references perfectly discloses the claimed limitations. The motivation provided is found

in the reference (paragraph [0005], lines 14-16). The Examiner provided the Dolganow's

reference for its teaching of <u>advertising the amount of available bandwidth for a link</u> when

crossing the threshold boundaries. The Examiner understands the Applicants' position that the

condition or the thresholds in Dolganow are not fixed. However, McLean teaches that the

bandwidth thresholds are fixed. Thus the obviousness is proper.

 Regarding claims 8-12, the Examiner respectfully disagrees with the Applicants'

argument on obviousness and motivation of the references. Mclean discloses determination that

the available bandwidth of a link has either increases to the next higher or decreases to the

previous predetermined bandwidth (paragraph [0023]; [0033]; [0028]; [0019]; etc.). Dolganow

teaches reports or advertises an available bandwidth indicating an amount of bandwidth in the

link (col. 1, lines 36-42; col. 2, lines 45-53). As applied above, the Examiner provided Dolganow

only for its explicit disclosure of issuing or reporting or advertising the available amount of

bandwidth for a link. Otherwise, McLean discloses what has been claimed. Therefore, the

combination of the two references is appropriate. As for the motivation advertising the amount of

bandwidth available for the link avoids requiring significant resource available for set up calls

that would lead to decrease the overall network efficiency. In short, the Examiner brought the

Dolganow reference to the Applicants attention just for its teaching of advertising the available

amount of bandwidth. The condition or determination of increasing to the next higher or

decreasing to the previous predetermined bandwidths is already disclosed by McLean.

Regarding claims 13-16, the Examiner respectfully disagrees with the Applicants'

argument that the references do not disclose "change in the number of the circuit bandwidths that

are available on the associated link". The above limitation is the same as claim 8 of increasing to

the next higher or decreasing to the previous predetermined bandwidths, and as shown above,

McLean discloses the same (paragraph [0023]).

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

3.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness
            or nonobviousness.

4.   Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolganow et

al. (US 7,016,975 B2) in view of MacLean et al. (US 2005/0073955 A1).

Regarding claim 1, Dolganow discloses a method for use in a communication network (col. 1, lines 17-18), the method comprising advertising an amount of available bandwidth for a link in response to said available bandwidth having crossed any one of a plurality of bandwidth thresholds (col. 2, lines 45-55; col. 1, line 36-51; col. 7, lines 33-61).

Dolganow doesn't disclose the any one of the plurality of the thresholds are fixed and are independent of the amount of bandwidth available for the link at a given time.

MacLean the any one of the plurality of the thresholds are fixed and are independent of the amount of bandwidth available for the link at a given time (paragraph [0018], line 12-[0020]; [0028]-[0029]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate fixed parameters or bandwidth threshold values independent of the available bandwidth on the link as taught by MacLean into the advertising the available amount for a link of Dolganow in order to adaptively manage bandwidth on optical links shared by multiple services and to control the policy of bandwidth allocation between services contending for links, such as determining when bandwidth usage has dropped off sufficiently to warrant removing an STS-1 from the service.

Regarding claims 2-5, Dolganow discloses plurality of thresholds in a communication network (co. 7, lines 33-55).

Dolganow doesn't explicitly disclose the network allocates bandwidth to circuits established over said link in discrete bandwidth amounts, and wherein said plurality of bandwidth thresholds are each a function of said discrete bandwidth amounts; individual circuits set up over said link each utilize a respective number of time slots, and wherein each of said

discrete bandwidth amounts corresponds to a respective number of said time slots and each of

said individual circuits is an STS-N circuit having N time slots, where N is a value selected for

each circuit from among a predefined set of values..

MacLean teaches the network allocates bandwidth to circuits established over said link in

discrete bandwidth amounts, and wherein said plurality of predetermined bandwidth thresholds

are each a function of and smaller than said discrete bandwidth amounts (paragraph [0021]-

[0022]; [0028], lines 1-8; [0019]-[0020]); individual circuits set up over said link each utilize a

respective number of time slots, and wherein each of said discrete bandwidth amounts

corresponds to a respective number of said time slots and each of said individual circuits is an

STS-N circuit having N time slots, where N is a value selected for each circuit from among a

predefined set of values (paragraph [0022]; [0029], explains the bandwidth amounts correspond

to the respective number of values of STS, such as 1, 24 and 48. And it is well known in the art

that these values correspond to time slots, e.g. see Acharya et al. (US 2004/0165540), paragraph

[0007]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the allocation of discrete amount of bandwidth wherein each of the

thresholds are the function of and smaller than the discrete amount of bandwidth corresponding

to the number of values such as 24 STS-1 or STS-24 and 48 STS-1 or STS-48 as taught by

MacLean into the communication network of Doganow in order to adaptively manage bandwidth

on optical links shared by multiple services.

Regarding claims 6 and 7, Dolganow discloses the network utilizes a predefined routing

protocol (PNNI) (col. 3, lines 25-26), said protocol including routing messages (PTSEs) that are

communicated among switches within said communication network, and wherein an individual

one of said messages is an available bandwidth message that is transmitted, by at least one of

said switches to which said link is connected, to at least another one of said switches (col. 7,

lines 21-32; col. 1, lines 45-48; col. 2, lines 45-55).

5.   Claims 8-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacLean in

view of Dolganow.

    Regarding claims 8 and 17-18, MacLean discloses telecommunication switch (Fig. 1;

paragraph [0015], lines 12-15, "central controller 10-1"), telecommunication system or network

(paragraph [0001]; [0002], lines 1-4) and a method for use in a communication network

comprising a plurality of switches interconnected by a plurality of links (Fig. 1), the method

comprising setting up circuits through said network, each circuit being set up over a path that

includes two or more of said switches and one or more of said links (paragraph [0008], lines 1-8;

[0016]) and each circuit having a particular amount of bandwidth selected from a plurality of

predetermined circuit bandwidths (paragraph [0029]; [0021]; [0022]), and responsive to a request

to set up through said network an additional circuit having a desired amount of bandwidth,

identifying a path through said network that includes links each having at least that amount of

available bandwidth (paragraph [0028]; [0016], lines 20-22; [0030], lines 4-8; [0031]), wherein it

is determined how much bandwidth each link has available from available bandwidth (paragraph

[0019]).

    MacLean further discloses adding and removing the circuit bandwidths when a link's

bandwidth a) increased from a previous value to a value at least equal to the next higher one of

said predetermined circuit bandwidths or b) has decreased from a previous value to a value that

is lower than the next lower one of said predetermined circuit bandwidths (paragraph [0033]; [0023]; [0028]; [0019]; [0007]; [0008], lines 17-21; [0017]; [0020]).

MacLean doesn't explicitly disclose messages transmitted within said network, each indicating an amount of available bandwidth for a respective link, each of at least ones of said available bandwidth messages being transmitted responsive to the determination.

Dolganow teaches messages transmitted within said network, each indicating an amount of available bandwidth for a respective link, each of at least ones of said available bandwidth messages being transmitted responsive to the determination (col. 1, lines 44-51; col. 2, lines 45-55; col. 7, lines 27-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate transmitting or advertising a message such as PTSE when a change of a link's bandwidth crosses the significant upper and lower bound values into the bandwidth management of MacLean in order to avoid requiring significant resource available for set up calls, hence decreasing overall network efficiency (Dolganow, col. 1, lines 41-44).

Regarding claim 13, the claim includes features corresponding to subject matter mentioned above to the rejection of claim 8. The claim is a mere reformulation of claim 8, and thus the rejection to claim 8 is applicable hereto.

Regarding claims 9 and 10, MacLean discloses circuits each utilize a respective number of time slots, and wherein each of said predetermined circuit bandwidths corresponds to a respective number of said time slots and each of said circuits is an STS-N circuit having N time slots, where N is a value selected for each circuit from among a predefined set of values (paragraph [0022]; [0029], explains the bandwidth amounts correspond to the respective number

of values of STS, such as 1, 24 and 48. And it is well known in the art that these values

correspond to time slots, e.g. see Acharya et al. (US 2004/0165540), paragraph [0007]).

Regarding claims 11 and 12, as applied above, MacLean discloses available bandwidth

with in links that are connected the nodes or the switches of the network.

MacLean doesn't explicitly disclose the network utilizes a predefined routing protocol

(PNNI), said protocol including routing messages (PTSEs) that are communicated among

switches within said communication network, said routing messages including said available

bandwidth messages, and wherein said available bandwidth messages are transmitted by at least

ones of said switches to others of said switches.

Dolganow teaches the network utilizes a predefined routing protocol (PNNI) (col. 3, lines

25-26), said protocol including routing messages (PTSEs) that are communicated among

switches within said communication network, said routing messages including said available

bandwidth messages, and wherein said available bandwidth messages are transmitted by at least

ones of said switches to others of said switches (col. 7, lines 21-32; col. 1, lines 45-48; col. 2,

lines 45-55).

Therefore it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the communication network technique of Dolganow utilizing PNNI

and transmitting PTSE or messages among the switches indicating the change and/or availability

of bandwidth in a link into the bandwidth management of MacLean in order to avoid requiring

significant resource available for set up calls, hence decreasing overall network efficiency

(Dolganow, col. 1, lines 41-44).

Regarding claims 14-16, as applied above, MacLean discloses available bandwidth with in links that are connected the nodes or the switches of the network

MacLean doesn't explicitly disclose available bandwidth messages associated with a particular link are transmitted by at least one switch to which that link is connected; said at least one switch transmits said available bandwidth messages associated with a particular link to other switches of said network; and said at least one switch transmits said available bandwidth messages associated with a particular link to other switches of said network, but only if it has not done so within a predetermined period of time since it last transmitted an available bandwidth message associated with said particular link.

Dolganow teaches available bandwidth messages associated with a particular link are transmitted by at least one switch to which that link is connected (col. 2, lines 49-55); said at least one switch transmits said available bandwidth messages associated with a particular link to other switches of said network (col. 1, line 62-col. 2, line 13; col. 6, lines 16-22); and said at least one switch transmits said available bandwidth messages associated with a particular link to other switches of said network, but only if it has not done so within a predetermined period of time since it last transmitted an available bandwidth message associated with said particular link (col. 7, lines 21-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the tine the invention was made to transmit messages within a predetermined period of time associated to link's bandwidth availability to adjacent switch and/or other switches in the network as taught by Dolganow, and use the technique into the MacLean telecommunication method in order to avoid

requiring significant resource available for set up calls, hence decreasing overall network efficiency (Dolganow, col. 1, lines 41-44).

Conclusion

6.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kibrom T. Hailu whose telephone number is (571)270-1209. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kibrom T Hailu/

Examiner, Art Unit 2616

/Ricky Ngo/

Supervisory Patent Examiner, Art Unit 2616